

sagaciously directing the first love and the early study of natural science in the mind of Darwin. No one can be more deeply moved by a sense of this gratitude than was Mr. Darwin himself. His letters, written to Mr. Henslow during his voyage round the world, overflow with feelings of affection, veneration, and obligation to his accomplished master and dearest friend—feelings which throughout his life he retained with undiminished intensity. As he used himself to say, before he knew Prof. Henslow, the only objects of natural history for which he cared were foxes and partridges. But owing to the impulse which he derived from the field excursions of the Henslow class, he became while at Cambridge an ardent collector, especially in the region of entomology; and we remember having heard him observe that the first time he ever saw his own name in print was in connection with the capture of an insect in the fens.

During one of these excursions Prof. Henslow told him that he had been commissioned (through Prof. Peacock) to offer any competent young naturalist the opportunity of accompanying Capt. Fitzroy as a guest on the surveying voyage of the *Beagle*, and that he would strongly urge its acceptance on him. Mr. Darwin had already formed a desire to travel, having been stimulated thereto by reading Humboldt's "Personal Narrative;" so after a short hesitation on the part of his father, who feared that the voyage might "unsettle" him for the Church, the matter was soon decided, and in December of 1831 the expedition started. During the voyage he suffered greatly from sea-sickness, which, together with the fasting and fatigue incidental to long excursions over-land, was probably instrumental in producing the dyspepsia to which, during the remainder of his life, he was a victim. Three years after returning from this voyage of circumnavigation, he married, and in 1842 settled at Down in Kent. The work which afterwards emanated from that quiet and happy English home, which continued up to the day of his death, and which has been more effectual than any other in making the nineteenth century illustrious, will form the subject of our subsequent articles.

(To be continued.)

ECLIPSE NOTES¹

II.

ON the present occasion these notes will be more geographical than astronomical, for since the last notes were written, the English Government Eclipse Expedition has traversed through storm and sunshine the distance separating London from Cairo, and is now at the latter place, making final arrangements before it starts to-night up the great river.

The first thing I have to say, is, that the arrangements made for astronomers of all nations by His Highness the Khedive and by his government have been all that could have been desired. Indeed, so universal has been the wish to do everything that could in any way tend to the success of the observations, that it is almost invidious to mention names; but still it is impossible not to recognise that the sympathy for everything scientific which dis-

tinguishes Stone Pasha, the chief of the staff, and the important influence which his high position gives him, has done much in kindling the enthusiasm which we find,—an enthusiasm shared in a great degree by the Khedive himself, who has insisted that the astronomers shall be his personal guests during their sojourn on the Nile. But this is to anticipate; it will be better perhaps, in order to give an idea of the thoroughness with which the arrangements have been carried out, to begin at the beginning of our stay in Egypt.

When the *Kaisar-i-Hind* got into harbour at Suez, after a rapid passage through the canal, a passage accelerated at the request of the Egyptian Government, as the canal had been blocked for three days, the Governor of Suez and Ismatt Effendi at once came on board to welcome the party. A special train had been provided with a car for the instruments, which were at once sealed up and guarded after their arrival at the station in Suez Town. Nothing could exceed the kindness of the authorities; the Custom House, which sometimes gives trouble to those who land in Egypt, was never once even thought of, and after spending the night at Suez, a train brought us yesterday to Cairo, his Excellency Stone Pasha himself, with some of his officers detailed for service with the Expedition, being on the platform to welcome the scientific party. The instruments were at once taken to the river-side, where provision had been made to ferry the car containing them, still sealed, across the Nile.

Acting on a suggestion made some time ago, the exact latitude and longitude of Sohag has been absolutely determined; on the old French map its position had been got by rough traverses from Siut. With this new position and a rapid reconnaissance, a new map has been prepared by General Stone, a copy of which I hope to be able to send with these notes. This shows the point at which the line of central eclipse will cross the Nile with no doubt the greatest possible exactitude. In order to prevent any mischance or delay owing to the low Nile interfering with the arrangements, and causing a loss of time, the steamer placed at the disposal of the astronomers by the Egyptian Government is already moored at Sohag, close to the central line, and indeed the French party are already aboard. Communication between Siut and Sohag will be kept up by the Postal steamers, for the Nile is no longer a river of mystery, and a regular postal service is kept up for thousands of miles. But the hotel steamer, as it is called here, will likewise be locomotive. The French party has already erected its instruments to the south of the arm of the Nile shown below Sohag, and in all probability the English party will occupy the high ground shown on the map to the north of Akmin; a position desirable on account of the Khamseen—the terrible dust-laden desert wind—which, however, this year, up to the present moment, has been very merciful; this we may regard as a good or bad presage during the next fortnight, to which its devastating effects are generally confined.

Between these stations the special boat will keep up constant communication.

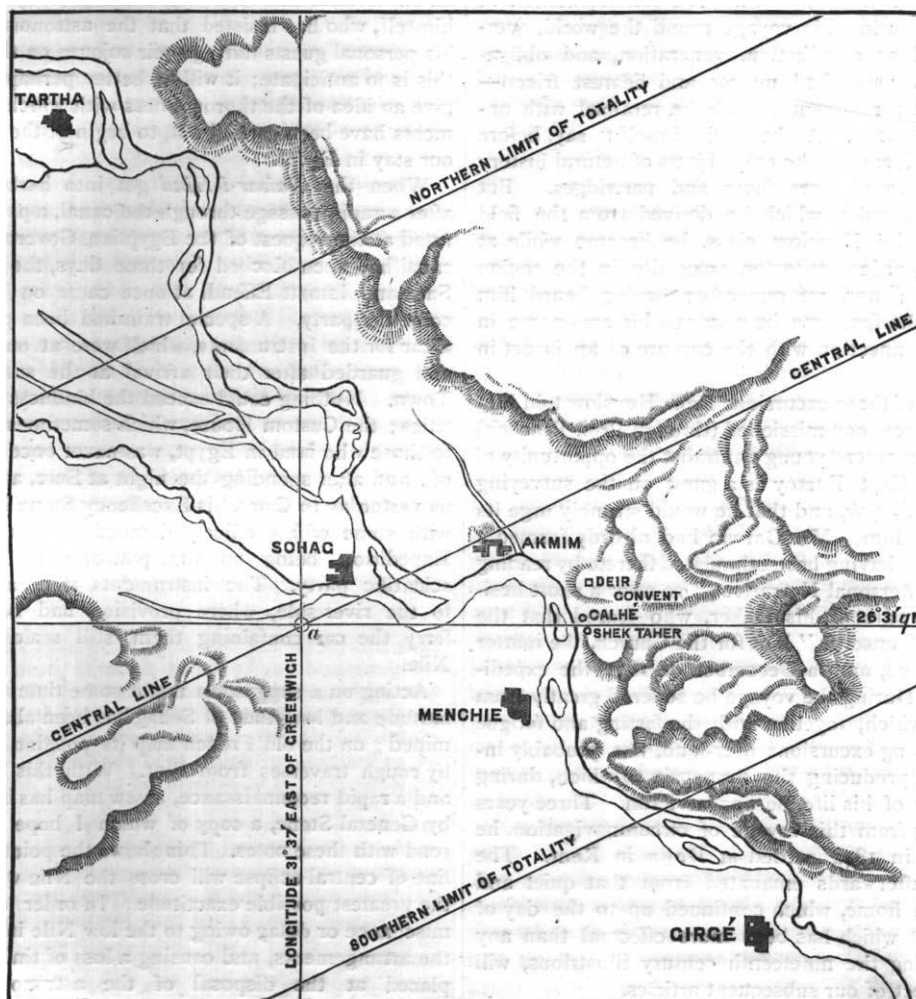
The Italian Expedition is under the charge of Prof. Tacchini, of Rome, whose long-continued observations of the spectra of prominences are so widely known and

¹ Continued from vol. xxv. p. 578.

well appreciated by men of science. He has brought out a small equatorial telescope with spectroscope attached, and it is believed, intends to devote himself

exclusively to spectroscopic work during the eclipse. He joins the eclipse boat a few days later on.

The French party consists of MM. Thollon, Trépied



Director of the Observatory at Algiers, and M. Buisseux ; as above mentioned, they are already at their station ; their work will be chiefly spectroscopic.

The Egyptian Government has deputed Moukhtar Bey,

Colonel on the Staff, to assist the English party at the place of observation.

J. NORMAN LOCKYER

Cairo, May 5

(To be continued.)

THE TOTAL ECLIPSE

THE following telegram in the *Times* of to-day from its Special Correspondent with the English expedition to Egypt, gives the following results of the observations of the total solar eclipse of yesterday :—

Sohag, May 17

The total eclipse of the sun was successfully observed here to-day by the English, French, and Italian astronomers.

A fine comet was discovered close to the sun, its position being determined by photographs.

The spectroscopic and eye-observations just before and during the period of totality gave most valuable results, the darkening of the lines observed by the French astronomers indicating a lunar atmosphere.

A series of good photographs of the corona was obtained, and the spectrum of the corona for the first time was successfully photographed.

The astronomers will probably leave on Saturday on board the Government steamer.

THE THEORY OF DESCENT

Studies in the Theory of Descent. By Dr. Aug. Weismann. Translated and Edited by Raphael Meldola, F.C.S. Part III. The Transformation of the Mexican Axolotl into Amblystoma ; On the Mechanical Conception of Nature. (London: Sampson Low, Marston, Searle, and Rivington, 1882.)

THE present issue completes the excellent translation of Dr. Weismann's valuable and suggestive work. The first two essays of which it consists is devoted to a